

Application No. 10/662699  
Response to Office Action of December 17, 2004

REMARKS/ARGUMENTS

Claims 1-26 are original and pending. Favorable reconsideration is respectfully requested in light of the Remarks below.

The rejections of Claims 1-26 under 35 U.S.C. §102 and/or 35 U.S.C. §103 over any of US Patent No. 6379497 (US'497); are traversed below.

US'497, at best, describes multiply paperboard material containing bulk-enhancing additives, such as expandable microspheres, substantially distributed therein (See Column 5, lines 30-35). Further, US'497 discloses that the bulk-enhancing additive should also be porosity-enhancing and be additively controlled so as to be distributed throughout the thickness of paperboard and size press applied binder (See Column 5, lines 37-42). Still further, the binder may be starch (see Column 18, lines 23-24). When starch is used at the size press, US'497 discloses that the starch solids should be added at between 20% and 40% solids starch (see Column 30, lines 3-6). Finally, US'497 teaches that because the bulking agents (i.e. expandable microspheres):

*“increase the ‘openness’ of the resulting paperboard, there is increased penetration of the size-press solids which allows for a greater amount of size press starch to be retained within the paperboard”*(See Column 30, lines 10-14).

In direct contrast, the present invention relates, in part, to a paper or paperboard having improved bulk and stiffness containing a three layered single-ply I-beam structure having a top layer, a central layer and a bottom layer, and a bulking agent interpenetrated within the central layer, and optionally also *where the central layer is a cellulosic core layer, and the top and bottom layers are starch based, size-press applied coating layers that cover*

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*an upper and lower surface of the central layer with minimal penetration into the central layer.* Further, the invention relates, in part, to methods of making and using the same.

US'497 fails to disclose, much less suggest, the claimed invention because it fails to disclose and/or suggest the presence of an *I-beam structure* altogether. The Office has taken the position that an *I-beam structure* is inherent in the paperboard disclosed by US'497. To demonstrate inherency however, it is not enough to show that an inherent property *may* occur each and every time, but there must be a concrete demonstration or reasoning set forth by the Office that such property does, in fact, occur each and every time within the reference's disclosure. The Office has merely provided two summary statements lacking any reference whatsoever to specific disclosures within US'497 that demonstrate US'497 discloses each and every limitation of the claimed invention, much less the specific basis within US'497 that sets out a reasonable expectation that an *I-beam structure* would occur each and every time. In fact, it provides a definition from a completely different reference (e.g. US 5244541). In order for inherency to apply, an *I-beam structure* must be present in the paperboard disclosed by US'497 each and every time and the Office fails to present any case whatsoever found within US'497.

In fact, US'497 teaches away from an *I-beam structure*, and at the very least, teaches far away from a paper or paperboard containing *a central layer that is a cellulosic core layer, and top and bottom layers that are starch based, size-press applied coating layers that cover an upper and lower surface of the central layer with minimal penetration into the central*

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layer. As indicated above, US'497 discloses that the bulk and porosity enhancing additives

(i.e. microspheres) are added:

*"in a controlled distribution throughout the thickness of the paperboard and size press applied binder"*(See Column 30, lines 10-14).

This disclosure clearly indicates that the bulk and porosity enhancing additives (i.e. microspheres) are substantially distributed throughout the size press applied binder as well as the paperboard. Therefore, US'497 clearly teaches that the bulk and porosity enhancing additives is **not** present only in the center layer, but in fact, substantially penetrates into the layer containing the size press applied binder. This teaching is in direct contrast to the definition of I-beam structure provided by the Office in which it references the disclosure of US 5,244,541. Accordingly, US'497 not only fails to disclose that its paperboard product contains an I-beam structure each and every time, it actually teaches away from an I-beam structure as defined by US 5,244,541. Accordingly, the claimed invention is neither disclosed, much less suggested by US'497.

Further evidence that US'497 teaches away from the claimed invention is evidenced by its disclosure that because the bulking agents (i.e. expandable microspheres):

*"increase the 'openness' of the resulting paperboard, there is increased penetration of the size-press solids which allows for a greater amount of size press starch to be retained within the paperboard"*(See Column 5, lines 40-42).

This is the only reference to the relative positioning of a bulking agent and size press applied starch that can be found throughout US'497 and it discloses that it is most desirable to have the size press applied starch penetrate the center layer core and therefore be retained within the paperboard. This disclosure certainly does not discuss a paper or paperboard containing an I-beam structure, much less that one containing *a central layer that is a cellulosic core*

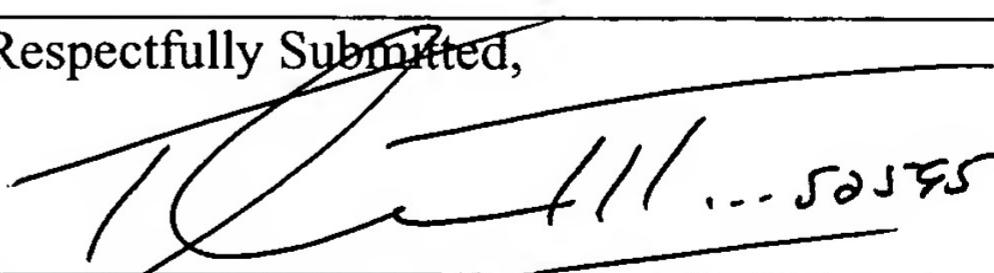
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*layer, and top and bottom layers that are starch based, size-press applied coating layers that cover an upper and lower surface of the central layer with minimal penetration into the central layer, is desirable. Accordingly, the present invention is neither disclosed nor suggested by US'497 because US'497 actually teaches away from the claimed invention and the allegedly inherent characteristics therein.*

In summary and for all of the reasons stated above, withdrawal of these grounds of rejection is respectfully submitted.

Applicants respectfully submit that the present application is now in condition for allowance. Favorable reconsideration is respectfully requested. Should anything further be required to place this application in condition for allowance, the Examiner is requested to contact below-signed by telephone.

Please charge the amount of **\$1020.00** required for the request for extension of time to our Deposit Account No. 09-0525. In the event any variance exists between the amount enclosed and the Patent Office charges for filing the above-noted documents, including any fees required under 37 C.F.R 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. 09-0525. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time.

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